

**FOREIGN BROADCAST INFORMATION SERVICE
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19 February 1982

MEMORANDUM FOR: ✓ Chief, Engineering Division
Chief, Okinawa Bureau
Chief, Bangkok Bureau

FROM:

Far East Regional Engineer

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SUBJECT: Bangkok Trip Report for 17-21 October 1981

I. INTRODUCTION

This memorandum is a report on the engineering activities of the Bangkok Bureau. The purpose of this TDY was to become knowledgeable in the Bureau's technical operations and projected requirements.

II. ENGINEERING ACTIVITIES

A. Facilities

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2. Receiver Site

a. The operations area is spacious and the equipment is efficiently laid out in a long "U" shaped configuration. The Bureau uses the additional space for storage of furniture, paper and other administrative and logistical supplies. This area has been open; however, as the consequence of a recent safety inspection, a project is underway to build a partitioning wall around the storage area(s). This requires moving the microwave system a few feet.

b. An inspection of the antenna field was not made because the field was not accessible at this time and the "swamp buggy" was inoperative. The project to change RF cable runs from underground to overhead feeds was almost complete. The completed portion was done in a professional manner.

c. It appears that building maintenance will become a problem over the next few years. [] appears to be phasing down their building support. Their equipment is antiquated and is only used for second and third level backup.

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3. Bureau

a. This two-floor arrangement has been efficiently laid out. Wherever one is, he gets the feeling of being in a modern office environment with complete solitude, and yet it is only a few steps to any other part of the Bureau. The lower floor is the operational area and the top floor is the office and cafeteria area.

B. Personnel (Technical)

1. The Bureau's technical personnel consist of a Bureau Engineer (staff electronics specialist), an indigenous electronics engineer and [] indigenous employees classified as radio engineers (boardmen) and technicians.

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2. The Bureau Engineer, [] is responsible for the Bureau's engineering activities, including first and second line supervision of the [] member technical staff, 1 contract teletype repairman and [] contract drivers/custodial personnel. He is also responsible for liaison with the Embassy for the communications circuits and most administrative and logistical support functions for the Bureau and the housing units. This function accounts for about 75 percent of his time.

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3. The assistant engineer, [] supervises the [] member technical staff and provides technical assistance and guidance when required. He is also responsible for technical liaison with some customer circuits and commercial representatives.

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4. The technical staff is well qualified in its maintenance capabilities and procedures required to support the Bureau. The only difficulties encountered are the ever-present language problem (minimal because of []) and little familiarization with American standards.

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C. Technical Inspection

1. An inspection was conducted to evaluate the present system in terms of installation practices, system configuration and technical quality (i.e., workmanship).

2. All of the basic installation practices have been implemented. However, the system could be upgraded to present installation practices with minimal investment. (See the conclusion section for additional information.)

3. A system ground has been established and distributed throughout the equipment. The ground buss is a non-insulated no. 12 AWG solid copper wire. This should be replaced with an insulated no. 2 AWG stranded copper cable. This project could be done over a period of time as the rest of the system is upgraded.

4. The AC and emergency generator power is supplied by the [] Building contract and is satisfactory for our requirements. Power distribution within the Bureau has been accomplished in a professional manner. The receiver site power is provided by the [] facilities and is satisfactory except as noted in section II A2c.

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5. The patch panel configuration could be improved by using miniature, low level-type patch panels. Patch panels in a communications facility should provide signal ground patching.

6. As is the case when telephone terminal blocks are used, all connections have to be soldered. This means that when circuit configurations change, wires have to be unsoldered, unwrapped and left hanging loose or replaced. All of these contribute to a non-professional looking installation. This is the case throughout the Far East bureaus. Bangkok's installation, in some cases, does provide a 2-block terminal where all changes are made via jumpers. This still provides a messy installation because of the size of wire used and the solder connections. The patch panels, terminal blocks and connections to outside lines should be done with a 2-block wire wrap configuration which would eliminate all of the above shortcomings and provide a permanent cable plant.

7. Signal distribution is accomplished via a loop-current configuration. This system is outdated and is not a convenient system to work with. It requires too much rack space and special attention has to be made on every patch and system reconfiguration. It also limits the purchase of new equipment to the interfacing of antiquated methods vice modern signalling techniques. The Bureau has plans to upgrade

the signal distribution system to MIL-188c (low level). This plan is based on the system used in Hong Kong which is not acceptable because it requires specially modified boards on operational equipment which interferes with present repair and return maintenance procedures. Okinawa Bureau is developing a plan for this conversion which will not require equipment modification.

8. The Harris (QEI) FDM multiplexer shelf has been rewired for their specific applications which makes this system unique to a bureau. Additional shelves should be made available so that standard units could be used vice unique ones.

9. The RF cables for the Bureau's antenna are badly weathered and are running all over the roof. These cables have been dressed up to the extent possible and should be replaced on a long-term basis.

10. The system documentation is very good. However, it is not up-to-date, not organized efficiently, and the drawings need to be condensed. The Bureau was tasked to present all system documentation in a notebook form, the first edition of which should be available about 1 March 1982. Daily and preventive maintenance records are complete, kept up-to-date, well designed and properly administered.

III. OTHER SUBJECTS

A. New Embassy Proposal

1. The Embassy had requested the Bureau to identify its floor space requirements in the event that plans were approved for a new Embassy building. The plans at that time called for the new building to house all components who required a secure area and the present building would house the other components which include the Bureau.

2. The Bureau Engineer and I met with the Embassy communications component to get a briefing on their facilities and their plans if the new building became a reality. We also made a site survey of the TCU area in the event that the Bureau moved to the present building. The present building could accommodate a monitoring system. The terminal equipment should be located on the top floor (i.e., the present TCU area). The antenna could be placed on the roof but there appears to be some building profile concerns that need to be resolved.

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3. A mast on the roof provides a 70-foot (from ground level) tower that could be used for the receiver site communications antenna. Due to extensive construction in Bangkok, consideration should be given to establishing a microwave relay from the beginning. This relay could be located in the present Shell House location or possibly on a U.S. Government owned (alleged) tower nearby.

B. [REDACTED]

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1. The receiver site can readily accommodate a [REDACTED]. The operations building has ample space for the [REDACTED] equipment and even though the antenna field is a swamp area, a raised mound near the access road could be used for the antenna.

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2. Audio signals could be sent to the Bureau via the existing microwave system but TV and/or other video signals will have to be manually carried or an extensive microwave system upgrade would have to be implemented.

IV. CONCLUSIONS

A. This Bureau is the best structured (technically) in the Far East Region. All basic installation practices have been considered and implemented to some degree. However, these facilities should be upgraded to present installation standards to prepare for [REDACTED] automated data processing equipment and modern communications facilities. Good installation practices are required for these systems to function properly. A combined project should be established to upgrade the Bureau MIL-188c signal distribution, install miniature tip/ring/sleeve patch panels using wire wrap terminal blocks and to add Harris FDM shelves to provide standard wired chassis.

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B. The [REDACTED] project should continue as planned. If the move to the present Embassy building becomes a reality, it should not affect the present plans. The terminal could be moved at a later date and/or a second terminal could be installed at the new site. A study of the communications, antennas and signal processing problems associated with locating a [REDACTED] system at Bang Ping and/or the Embassy should be made in the near future.

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C. The technical staff is well qualified and capable of supporting the Bureau. On-site briefings/training should be provided on new equipment by experienced FBIS technicians or factory representatives when new equipment is installed.

D. System documentation and records are more than satisfactory. However, the documentation must be recompiled to establish a Bureau notebook.

E. A replacement "swamp buggy" to be used for antenna field maintenance should be added to the budget program cycle. The present device is aging and has been down for repairs recently and it has limited carrying capacity which should include 2 persons and their tools.

F. An RF cable replacement program for the Bureau antennas should be established on a long-term basis (i.e., year-end funds).

cc: C/Ops

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